

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3878 (1967): Shears, Plaster, Dental [MHD 8: Dentistry]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE



IS : 3878 - 1967
(Reaffirmed 1987)

Indian Standard

SPECIFICATION FOR
PLASTER SHEARS, DENTAL

(First Reprint MARCH 1989)

UDC 616.314-089.29:615.472

© Copyright 1967

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR PLASTER SHEARS, DENTAL

Dental Instruments Sectional Committee, CPDC 21

Chairman

COL. N. N. BERY

Representing

Ministry of Health & Family Planning

Members

SHRI D. A. BOND

Dental Products of India Ltd, Bombay

CAPT S. BRATT

Dental Council of India, New Delhi

DR RATAN H. DOCTOR

Indian Dental Traders, Bombay

SHRI P. N. DAVER (*Alternate*)

DR M. S. N. GINWALLA

Nair Hospital Dental College, Bombay

SHRI H. S. HERBERT

ULTRADENT Private Ltd, Bombay

SHRI D. N. VIG (*Alternate*)

SHRI R. N. VIG (*Alternate*)

BRIG KARTAR SINGH

Ministry of Defence (DGAFMS)

SHRI L. V. KINI

Kini Surgical & Engineering Works, Manipal

SHRI V. KRISHNAMOORTHY

Directorate General of Technical Development
(Ministry of Industrial Development and
Company Affairs)

DR A. M. MALAOWALLA

Dental Council of India, New Delhi

SHRI V. V. S. MURTHY

Indian Drugs & Pharmaceuticals Ltd, New Delhi

SHRI K. L. TALWAR

Ministry of Defence (DGI)

SHRI A. B. RAO,

Director General, ISI (*Ex-officio Member*)

Director (Consr Prod)

Secretary

SHRI PRATAP SINGH

Assistant Director (Consr Prod), ISI

Dental Pliers and Prosthetic Instruments Subcommittee, CPDC 21 : 3

Convener

DR A. M. MALAOWALLA

Dental Council of India, New Delhi

Members

SHRI KAILASH BAGADIYA

Dr Bagadiya & Sons, Ahmedabad

DR K. BHARGAVA

Government Dental College & Hospital, Ahmeda-
bad

DR RATAN H. DOCTOR

Indian Dental Traders, Bombay

DR M. R. JOSHI

Government Dental College & Hospital, Ahmeda-
bad

SHRI R. SUNDARACHARLU

Indian Drugs & Pharmaceuticals Ltd, New Delhi

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR PLASTER SHEARS, DENTAL

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 30 January 1967, after the draft finalized by the Dental Instruments Sectional Committee had been approved by the Consumer Products Division Council.

0.2 This is one of a series of Indian Standard specifications on prosthetic dental instruments and has been formulated at the instance of the Advisory Committee for Development of Surgical Instruments, Medical Equipment and Appliances of Government of India. Other specifications published so far in these series are:

IS : 3875-1966 Hot plate, wax levelling, dental

IS : 3876-1967 Plaster knife, dental

IS : 3877-1967 Wax knife, dental

IS : 3879-1967 Wax spatula, dental

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard specifies the requirements for plaster shears, dental.

2. MATERIALS

2.1 The plaster shears shall be made of carbon steel conforming to designation T80 of Schedule VI of IS : 1570-1961†.

*Rules for rounding off numerical values (*revised*).

†Schedules for wrought steels for general engineering purposes.

2.2 Springs — The springs shall be made from carbon steel conforming to designation T55 of Schedule VI of IS : 1570-1961*.

2.3 Clamp — The clamp shall be made of cold drawn mild steel wire. The steel shall conform to designation T55 of Schedule VI of IS : 1570-1961*.

3. SHAPE AND DIMENSIONS

3.1 The plaster shears shall conform to shape and dimensions as given in Fig. 1.

3.2 The screw for the joint shall conform to designation M5 \times 0.5 and that for fixing the spring to designation M3 \times 0.5. The form of the thread shall be ISO profile conforming to IS : 1330-1958†.

3.3 One jaw of the shears shall be serrated. The depth, pitch and angle of serrations shall be 0.5 mm, 1 mm and 60° respectively.

4. WORKMANSHIP AND FINISH

4.1 All edges except the cutting edge, shall be smooth and rounded. The shears shall be free from pits, cracks, burrs and like visible defects. The screw shall be flush with the surface of the shears on head side and it shall be riveted over at the tail end as shown in Fig. 1.

4.2 The shears shall either be finished by oxidizing to a blue or black colour or by giving a thin coating of black enamel paint conforming to IS : 152-1950‡. The handle shall have a milled or knurled finish to give a non-slipping grip.

5. HEAT TREATMENT

5.1 The jaws of the shears shall be hardened and tempered to 550 to 600 HV while the springs shall be hardened and tempered to 400 to 450 HV.

6. TESTS

6.1 Performance Test — The plaster shear shall cut a slab 20 mm thick of set plaster of Paris and stone-plaster. The test shall be repeated 10 times. There shall be no damage to the shears or cutting edges after the completion of the test. The plaster of Paris or stone-plaster slab shall be prepared as detailed in 6.1.1 and 6.1.2.

*Schedules for wrought steels for general engineering purposes.

†General plan for metric screw threads with ISO profile (diameter range 0.25 to 300 mm).

‡Specification for ready mixed paint, brushing, stoving, lead-free, for general purposes, colour as required.



FIG. 1 PLASTER SHEARS, DENTAL

6.1.1 Plaster of Paris Slab — Mix 100 g of plaster of Paris powder ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ known as β calcium hemihydrate) with 60 ml of water at room temperature. The mixture shall be spatulated with the help of plaster spatula for a period of 2 minutes till it attains a smooth creamy mix and then vibrated to eliminate the air bubbles from the mixture. The mixture shall be poured into the cast and again vibrated to further eliminate the air bubbles and then allow to set for a period of 15 to 20 minutes. The cast shall, then, be taken out and dried for a period of 24 hours till it attains a compressive strength of 238 kgf/cm².

6.1.2 Stone-Plaster Slab — Mix 100 g of stone-plaster powder ($\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ known as α calcium hemihydrate) with 20 to 28 ml of water at room temperature. The cast shall be prepared in a similar way as for plaster of Paris and dried till it has a compressive strength of 600 kgf/cm².

6.2 Load Closure Test — The plaster shear shall close completely when a load of 3 kgf is applied to the handles gradually. There shall be no jerk or rough feeling when the shears are closed.

7. MARKING

7.1 The instrument shall be legibly and indelibly marked with the manufacturer's name, initials or trade-mark and the country of manufacture.

7.1.1 Each plaster shear may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

8. PACKING

8.1 The shears shall be given a thin coating of a solution containing corrosion inhibitors, wrapped in wax paper and then packed in cartons bearing the name of the item, manufacturer's name, initials or trade-mark and the country of manufacture.

BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 3 31 01 31, 3 31 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :

Telephone

*Western ; Manakalaya, E9 MIDC, Marol, Andheri (East), 6 32 92 95
BOMBAY 400093

†Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, 36 24 99
Maniktola, CALCUTTA 700054

Northern : SCO 445-446, Sector 35-C { 2 18 43
CHANDIGARH 160036 { 3 16 41

Southern : C. I. T. Campus, MADRAS 600113 { 41 24 42
{ 41 25 19
{ 41 29 16

Branch Offices :

Pushpak, Nurmohamed Shaikh Marg, Khanpur, { 2 63 48
AHMADABAD 380001 { 2 63 49

'F' Block, Unity Bldg, Narasimharaja Square, 22 48 05
BANGALORE 560002

Gangotri Complex, 5th Floor, Bhadbhada Road, T. T. Nagar, 6 27 16
BHOPAL 462003

Plot No. 82/83, Lewis Road, BHUBANESHWAR 751002 5 36 27

53/5 Ward No. 29, R. G. Barua Road, —
5th Byelane, GUWAHATI 781003

5-8-56C L. N. Gupta Marg, (Nampally Station Road), 22 10 83
HYDERABAD 500001

R14 Yudhister Marg, C Scheme, JAIPUR 302005 { 6 34 71
{ 6 98 32

117/418B Sarvodaya Nagar, KANPUR 208005 { 21 68 76
{ 21 82 92

Patliputra Industrial Estate, PATNA 800013 6 23 05

Hantex Bldg (2nd Floor), Rly Station Road, 52 27
TRIVANDRUM 695001

Inspection Office (With Sale Point):

Institution of Engineers (India) Building, 1332 Shivaji Nagar, 5 24 35
PUNE 410005

*Sales Office in Bombay is at Novelty Chambers, Grant Road, 89 65 28
Bombay 400007

†Sales Office in Calcutta is at 5 Chowringhee Approach, P. O. Princep 27 68 00
Street, Calcutta 700072

TO

IS : 3878-1967 SPECIFICATION FOR PLASTER
SHEARS, DENTAL

Alterations

(First cover page, pages 1 and 2, Title) — Substitute the following for the existing title:

' Indian Standard

SPECIFICATION FOR SHEARS, PLASTER, DENTAL '

(Page 3, clause 6.1) — Substitute the following for the existing clause:

'6.1 Performance Test — The plaster shears shall cut a slab 20 mm thick of set stone-plaster. The test shall be repeated ten times. There shall be no damage to the shears or cutting edges after the completion of the test. The stone-plaster slab shall be prepared as detailed in 6.1.1.'

(Page 4, Fig. 1)

a) Add the following dimension to the existing figure:

'Radius of curvature of the cutting jaws = 43 mm'

b) Substitute the following for the existing caption of the figure:

' FIG. 1 SHEARS, PLASTER, DENTAL '

(Page 5, clause 6.1.1) — Delete.

(Page 5, clause 6.1.2) — Substitute the following for the existing clause:

'6.1.1 Stone-Plaster Slab — Mix 100 g of stone-plaster powder ($\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ known as α calcium sulphate hemihydrate) with 20 to 28 ml of water at room temperature. The mixture shall be spatulated with the help of a plaster spatula for a period of 2 minutes so that it attains a smooth creamy mix and then vibrated to eliminate the air bubbles. The mixture shall be poured into the cast and again vibrated to further eliminate the air bubbles and then allowed to set for a period of 15 to 20 minutes. The cast shall then be taken out and dried till it attains a compressive strength of 600 kgf/cm².'